

Claims

1. A constituent delivery system for maintaining a first constituent and a second constituent separate from each other until ready for combining, comprising:
 1. container means for holding the first constituent;
 2. sterile separation means for maintaining said second constituent separate from said first constituent and said first and second constituents sterile relative to the exterior atmosphere; and
 3. introducing means for enabling combining of said first and second constituents within said container means and maintaining said first and second constituents sterile relative to the exterior atmosphere.
2. A constituent delivery system according to claim 1 wherein said sterile separation means comprises a first seal sealing said first constituent within said container and a second seal sealing said first seal and said second constituent from the external atmosphere.
3. The constituent delivery system according to claim 2 wherein said introducing means comprises a capsule containing said second constituent.
4. The constituent delivery system according to claim 3 wherein said first seal breaks under pressure, thereby introducing said capsule into said first constituent, while said second seal remains intact, thereby preserving sterility of the container and its contents.

35

Sub A6 5

10 5. The constituent delivery system according to claim 3 wherein said capsule comprises means for penetrating said first seal, for introducing said second constituent into said first constituent.

15 15 6. The constituent delivery system according to claim 1 wherein said container means comprises well means whereby, if said first constituent is a liquid, the liquid pools in said well means as the volume of said liquid is reduced.

20 15 7. The constituent delivery system according to claim 1 further comprising syringe receiving means for enabling insertion and removal of a syringe while still maintaining integrity of said sterile separation means.

25 25 8. The constituent delivery system according to claim 1 further comprising indicator means for indicating combining of said first and second constituents.

30 25 9. The constituent delivery system according to claim 1 wherein said first constituent is in liquid form.

35 30 10. The constituent delivery system according to claim 1 wherein said second constituent is in a non-liquid form.

35 30 11. The constituent delivery system according to claim 1 wherein said first and second constituents when combined comprise a medicinal preparation.

12. The constituent delivery system according to claim 11 wherein said medicinal preparation comprises an antibiotic.

5

13. A constituent storage system for maintaining a first constituent and a second constituent separate from each other until ready for combining, comprising:

storage means for holding the first and the second constituents sterile relative to the exterior atmosphere;

barrier means for maintaining said second constituent separate from said first constituent within said storage means; and

combining means for enabling combining of said first and said second constituents within said storage means and maintaining said first and said second constituents sterile relative to the exterior atmosphere.

20

14. A constituent storage system according to claim 13 wherein said barrier means comprises a first seal sealing said first constituent within said storage means and a second seal sealing said first seal and said second constituent from the external atmosphere.

25

15. A constituent storage system according to claim 13 wherein said combining means comprises a capsule containing said second constituent.

30

16. A constituent storage system according to claim 15 wherein said first seal breaks under pressure, thereby introducing said second constituent into said first constituent, while said

35

Sub
AS

1b

15

20

25

30

Sub
Ag

Sub A

second seal remains intact, thereby preserving the sterility of the storage means and its contents.

5

17. A constituent storage system according to claim 15 wherein said capsule comprises means for penetrating said first seal, for introducing said second constituent into said first constituent.

10

Sub A10

15

18. A constituent storage system according to claim 13 wherein said storage means comprises well means whereby said first constituent settles in said well means as the volume of said first constituent is reduced.

20

19. A constituent storage system according to claim 13 further comprising syringe receiving means for enabling insertion and removal of a syringe while still maintaining the sterility of said storage means.

25

20. A constituent storage system according to claim 13 further comprising indicator means for indicating introduction of said first constituent to said second constituent.

30

21. A method of combining a first constituent and a second constituent held separate from each other until ready for combining, comprising:

providing a first constituent in a container means;

providing sterile separation means for maintaining a second constituent separate from said first constituent and initially maintaining

35

said first and second constituents sterile relative to the exterior atmosphere;

5 providing introducing means for enabling
combining of said first and second constituents
within said container means and further maintaining
said first and second constituents sterile relative
to the exterior atmosphere; and

10 exerting a force on said introducing means thereby to combine said first and second constituents while maintaining said first and second constituents sterile relative to the external atmosphere.

15 22. The method according to claim 21 wherein
said sterile separation means comprises a first seal
sealing said first constituent within said container
and a second seal sealing said first seal and said
second constituent from the external atmosphere,
and wherein the step of exerting a force on said
introducing means comprises puncturing said first
seal.

23. The method of claim 22 wherein said introducing means comprises a capsule containing said second constituent, and wherein the step of exerting a force on said introducing means comprises pressing the capsule through said first seal.

30 24. The method according to claim 22 wherein
said introducing means comprises sharp edge portions
and wherein the step of exerting a force comprises
forcing said sharp edge portions to puncture said
first seal.

25. The method of claim 21 further comprising shaking the container means to mix together the first and second constituents.

5 26. The method according to claim 21 further comprising inserting a syringe needle into said container means to draw the first and second constituents into a syringe through said syringe needle.

10 27. The method according to claim 21 further comprising providing an indicator means for indicating the combining of said first and second constituents.

15



20



25

30

35